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— *IN THIS ISSUE* —

EDITORIAL

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The Federal Convention, to be held in Melbourne at Easter, has before it an Agenda of far reaching importance to the W.I.A. The Agenda items submitted by the Divisions cover a wide field and, when viewed in relation to the matters reviewed at the 1946 Convention, survey the whole gamut of post-war amateur activity. The last Convention concentrated in the main on the Regulations by which Amateur Radio is governed in this country, and it is of interest to note that of the matters which the 1946 Convention directed the Federal Executive to negotiate with the P.M.G. Department, 86 per cent. were agreed to and 5 per cent. are pending the final result of negotiation. A complete statement on this subject will be included in the next issue in the report on the 1947 Convention.

The major effort at this forthcoming Convention will be concentrated on improving and consolidating the Federal machinery of the W.I.A. to suit present-day conditions. Adequate provision has been made, however, for examining technical development planning, the current situation on P.M.G. Regulations, the setting up of a Defence Radio Reserve and other important matters.

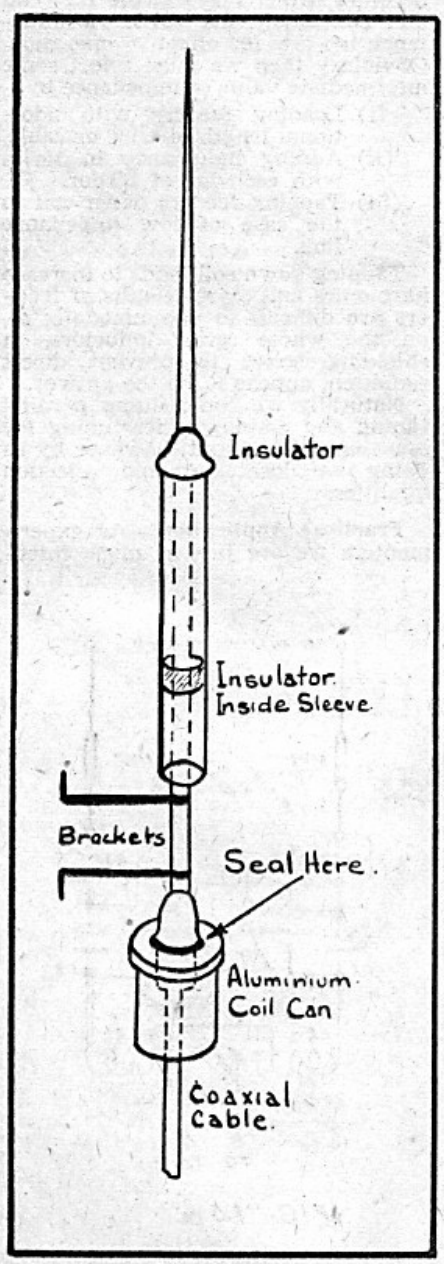
One aspect of Federal W.I.A. administration that will receive special consideration concerns the heavy volume of work associated with running the Federal affairs of the Institute, including the onerous task of publishing this Magazine. It represents a burden beyond which any one Division should reasonably be called upon to carry. There is agreement generally that the time has arrived when serious consideration must be given to providing a full-time paid officer of the W.I.A. The practical problems associated with such an appointment will be an important subject of deliberation by the delegates.

As the Agenda of the Convention contains items of such importance to each Division, it is extremely gratifying to see that each will be represented by its own Federal Councillor. Although the cost of transportation represents over 1/3 per full member, it is only by bringing together the various Divisions' own spokesmen, each capable of presenting his States' views and opinions on the wide range of subjects concerned, can we possibly hammer out a policy along sound democratic lines which can guide us during the forthcoming year to the benefit of the Australian Amateur and his hobby.

V. E. M.

V.H.F. ANTENNA

By E. C. MANIFOLD, VK3EM*



With the V.H.F. channels coming more into use by the amateur fraternity and the availability at present of co-axial cables fairly cheaply, brings a few rather serious thoughts to hand as to how to make use of various cables with different surge impedances; 55, 75 and 80 ohms to name some of the more common ones at hand.

Most of us make a few notes, many attempts at working things out, and finally finish up by saying—well, the mis-match wont be too bad, I hope!

As a basis for getting fairly close to the mark, the following notes are submitted, and while many chaps are perhaps capable of working out all their own problems, this does not help the other chap solve his, so you ex-Radar chaps who did have some experience in V.H.F. aerials, etc., let's have more of these notes and extend the knowledge of all concerned.

These notes deal with the use of the matching stub as a means of coupling the co-axial cable to the radiator.

Characteristics of Transmission Line

$$Zo = 276 \log 10 \frac{D}{r}$$

where Zo = impedance in ohms.
D = distance between centres of elements.
r = radius of elements (not diameter).

The above is a common and well-known formula, and holds only when the spacing is large relative to the diameter, the most usual condition in general applications.

Line Velocity

Two wire open line—V = 0.975—for other types of transmission line—V—can be found in most handbooks, as can most of the other accompanying formula.

Length of Line

$$L \text{ (inches)} = \frac{2952 \times V}{\text{Freq. Mc.}}$$

where L = length in inches.
V = line velocity constant.

To obtain a half wave or full wave section multiply by 2 or 4 respectively.

Quarter Wave Transmission Line

To match the co-axial line (Z_1) to the radiator (Z_2), the impedance of the line (Zo) will be:—

$$Zo = \sqrt[2]{Z_1 Z_2}$$

Attenuation

Some co-axial cables handled by W.I.A. to Hams have characteristics as under:—

Uniradio No. 5 (PT5M).—Impedance, 55 ohms; line velocity constant, 0.67; attenuation at 100 Mc., 4.5 db per 100 feet.

Uniradio No. 1 (PT29M).—Impedance, 75 ohms; line velocity constant, 0.67; attenuation at 100 Mc., 2 db per 100 feet.

In view of the above, to avoid too much loss in co-axial, keep it as short as possible between transmitter and radiator.

Having summarised the general formula relevant to the job in hand—formula which is generally sprinkled through handbooks—let us consider an example of feeding a vertical "J" type aerial construction using 55 ohm co-axial cable.

Stubs Impedance

To end feed a half wave aerial with an end impedance of say 1,000 ohms (if you know the exact end impedance of your radiator use that) with 55 ohm co-axial cable, the following stub impedance would be required:—

$$Zo = \sqrt[2]{Z_1 Z_2}$$
$$Zo = \sqrt[2]{55 \times 1000}$$
$$Zo = \sqrt[2]{55000}$$
$$Zo = 234 \text{ ohms.}$$

Or for 75 ohm cable:—

$$Zo = \sqrt[2]{Z_1 Z_2}$$
$$Zo = \sqrt[2]{75 \times 1000}$$
$$Zo = \sqrt[2]{75000}$$
$$Zo = 274 \text{ ohms.}$$

Stub Dimensions

Where the stub impedance and element dimensions are known, the spacing is found by transposing the formula:—

$$Zo = 276 \log 10 \frac{D}{r}$$

$$\text{therefore } D = r \text{ antilog } \frac{Z}{276}$$

So assuming ½-inch diameter copper or other material for the elements and requiring the spacings of the elements, centre to centre in inches:—

$$D = r \text{ antilog } \frac{Z}{276}$$
$$= 0.25 \text{ antilog } \frac{234}{276}$$
$$= 0.25 \times 7.04$$

D = 1.76-inch spacing centre to centre of rods for 55 ohm co-axial cable.

Stub length:—

$$L \text{ (inches)} = \frac{2952 \times V}{\text{Freq. Mc.}}$$

Radiator length:—

$$L \text{ (inches)} = \frac{5540}{\text{Freq. Mc.}}$$

and there you have it.

(Continued on Page 6)

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CLEARING THE ETHER SERIES II PART IX

By G. GLOVER, VK3AG*

THE ANTENNA TUNER

In Part VII of this series the writer dealt with various types of output couplings from purely a theoretical angle. In this section the problem will be attacked from practical viewpoint.

The main points to be considered in the design of Antenna Tuner are:—

(1) Location of Unit.
(2) Scope of Unit.
(3) Harmonic Rejection.
(4) Band-Switching.

Location of Unit (1).—There are four locations suitable for the antenna tuner, namely:—

(i) In the rack.
(ii) On the wall (inside) at point of entry.
(iii) On the wall (outside) at point of entry.
(iv) In housing on post under antennas.

Location (i) This method of attack is best if space is limited, and the rig is set up in the living room of flat, or where direct coupling is employed.

Location (ii) In this case we must employ link coupling between R.F. stage and antenna tuner, as applied to unit described in Part VIII. The advantages of this location are:—

(a) Open wire feeders (if employed) do not have to run around the shack.
(b) All components may be mounted on wall panel to facilitate changes and inspection. Wall cupboard may be built over unit if desired.
(c) Several sets of external feeders may be terminated behind panel and switching readily effected.

Location (iii) Unit used and conditions of use being the same as for (ii) with the additional advantage of being able to terminate feeders outside the shack. Where physical dimensions of shack are limited this also represents a worthwhile saving in space.

Location (iv) See remarks under (ii) and (iii) above. Additional advantage of using this system is that the feeders may be terminated at a point where least interference is caused to domestic operations. Naturally in order to effect quick changes of frequency with both systems (iii) and (iv) relays will be necessary.

*Glorad Engineering Services.

Scope.—If all band operation is contemplated obviously due allowance must be made for the fact that input impedance will vary over wide limits. For instance if antenna employed is a doublet having two quarter wave sections at 7 Mc., then the impedance at point of attachment of feeders will be approximately 75 ohms; whereas same antenna at 14 Mc. and 28 Mc. will have centre impedance of approximately 1,200 ohms. The actual input impedance to line (at transmitter or antenna tuner) will vary according to Zo (characteristic impedance) and length of line (if tuned). Without going too deeply into mathematics—

$$Z \text{ in} = \frac{Zo^2}{Z \text{ out}}$$

Table 1 sets out impedance existing at feed point of two typical antennas. Tables 2 sets out input and output impedances of three typical feeders under various conditions. Here we are concerned with range of input impedances encountered. Namely, 45 to 5,000 ohms (approx.). Thus we must design our antenna tuner to cope with this range.

Harmonic Rejection.—It is generally conceded that the easiest methods of improving harmonic rejection in antenna tuner is to:—

(a) Employ Faraday shield between coupled coils, or alternatively to earth centre of antenna and link coils (hot end in case of link used with single ended amplifier) in order to reduce capacitive coupling effects.
(b) Employ parallel tuned output circuit without tappings of any kind.

Faraday Shield (a) Unfortunately Faraday shields are cumbersome objects to contend with when plug in units are involved; hence recourse to earthing of link coils is usually necessary. Provided that direct radiation from transmitter is reduced to minimum by shielding, radiation due to capacity effects can be suppressed in antenna tuner.

Parallel Tuned Circuit (b) The employment of parallel tuned circuit for operation at H.F. where line input impedance is of the order of 5,000 ohms is impractical, because tuning capacity required would be reduced to an extremely low value. This value being far less than the distributed capacity of circuit and internal capacity of inductor. Thus in order to employ parallel tuned circuit at H.F. we must reduce terminal impedance. At the other extreme (45 ohms) of course the value of capacity required becomes rather large at the L.F. end and conversely the value of inductance too low for effective operation. Obviously then we must select some intermediate value of impedance by—

(i) Loading feeders with additional length of wire or cable.
(ii) Adding inductance in series with each leg of feeder.
(iii) Tapping feeders down coil in the case of low impedance line.

Tapping down coil tends to increase harmonics and extra lengths of feeders are difficult to accommodate; so, on the whole series inductors, in shielding boxes to prevent direct radiation, appear to be the answer.

Naturally we could dump parallel tuning and employ series tuning for low impedance input; however by so doing we lose harmonic rejection qualities.

Practical Application.—As experimenters we are just as much interested in finding out the whys and wherefores by empirical methods as by theoretical study. Figure 14a depicts circuit of wall mounting unit which will enable us to experiment to our hearts content with either series or parallel tuning.* Figure 14b being plan of typical set-up.

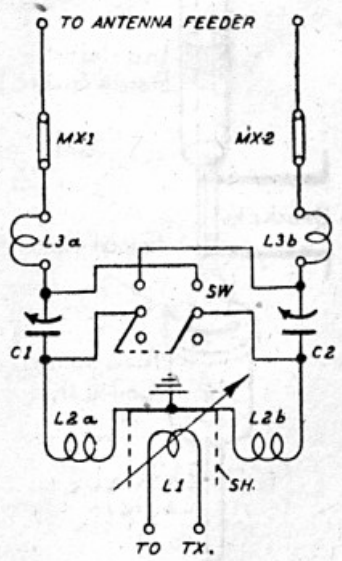
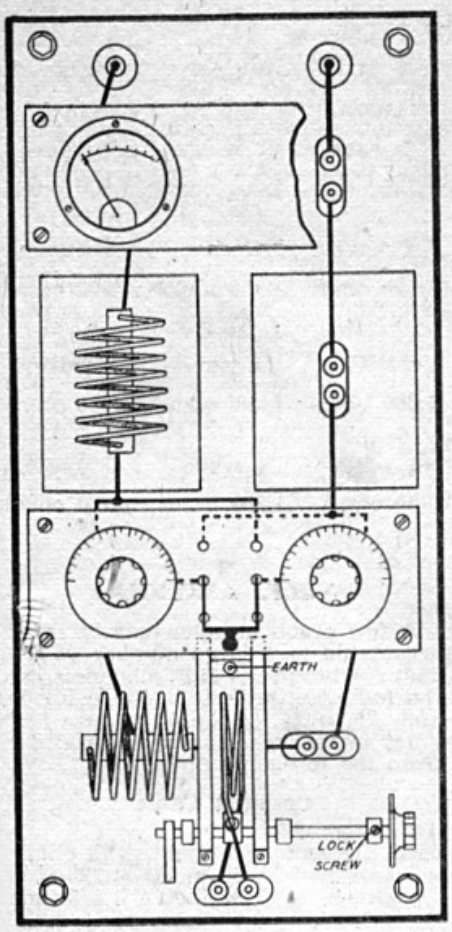


FIG. 14a

As in most cases components for antenna tuner are taken from the junk box, information herein is



FIG·14b

mainly intended to serve as a guide to would be constructors.

L1, the input coil, is arranged on rotary mounting so that coupling to L2 may be varied. Counterweight to balance unit may be advantageously applied.

The Faraday Shield (see Figure 14c) is interposed between L1 and L2. In this case shield is a permanent installation and its construction is thereby simplified. Dimensions of shield should be at least twice the diameter of coils, and each section is constructed by threading two 3/16-in. brass rods at each end, screwing one end of each into brass base, and fitting nuts to support and lock top piece. Both brass base and bakelite top piece should be of $\frac{3}{8}$-in. by $\frac{1}{4}$-in. section, and holes to receive 20 S.W.G. tinned copper wire should be drilled every $\frac{1}{4}$-inch in both members. In the case of bakelite top piece, holes should be enlarged at top to receive small eyelets. Having assembled main frame the tinned copper wire is threaded through holes in much the same way as a tennis racket is strung, care being exercised to keep wires taut. When in place wire should be sweated to brass base and eyelets in top piece, after which interconnections are cut away so as to leave each wire entirely free from its neighbors at top, forming a comb in effect.

L2 (a) (b) are constructed as separate coils for convenience and plug into standard pair of jacks.

C1 and C2 comprises two identical capacitors whose maximum capacity will depend upon the final conditions required of unit—see Table 3.

Sw. is d.p.d.t. knife switch for the purpose of changing from parallel to series tuning.

L3 (a) (b) are series loading coils which plug into jacks similar to L2. These units are enclosed in metal housings to prevent interaction and reduce harmonic radiation. When coils are not required dummy plugs are inserted in jacks.

Mx. 1 and Mx. 2 are pairs of jacks for insertion of R.F. Ammeters. In Figure 14b panel is shown in position on one side of unit with meter permanently mounted for the benefit of the rich and influential. For the poor cheaper means of current indication may be plugged into jacks. For example, the humble pea lamp with or without copper shunting loop. The pea lamp is quite a good indicator of resonance if shunted until only dim indication is available at resonance.

The Victorian Ham who is desirous of getting exact measurements of R.F. current is very fortunate, in that he or she may borrow suitable meter from W.I.A. Library. Dummy plugs are inserted in jacks in lieu of indicator. Where external antenna tuners are employed and external thermo-couples are available, the circuit of Figure 14d may be used to bring indication to operating position.

Band Switching.—The easiest way of attacking this problem is to em-

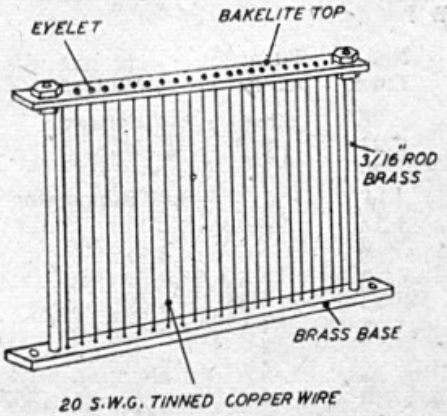
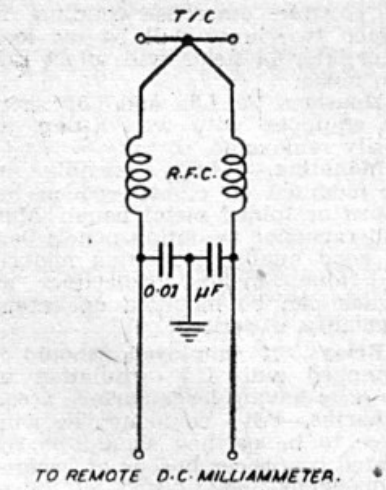


FIG. 14c

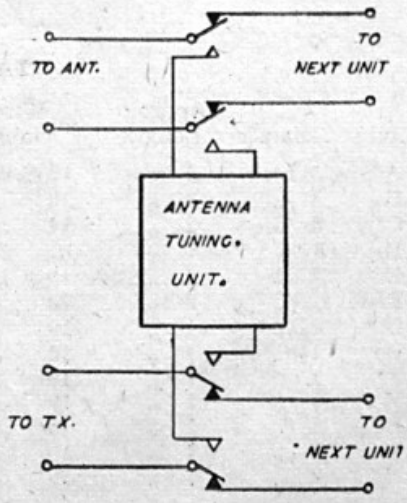


FIG·14d

ploy separate tuning units for each band, employing minimum number of components in each case. Figure 14e shows the best method of switching from unit to unit by either switch or relay. Dead sections of line being cut off by back contact. Where individual antennas are used for each band the problem is still further simplified, because it is only necessary to switch output of units. Where common antenna is employed R.F. ammeters or thermo-couples should be installed in feeders after switching in order to eliminate duplication.

CONSTRUCTION HINTS

Input Coupling.—Spacing of shield should be reduced to minimum required to accommodate L1. L2a and L2b should be placed as near shield



FIG·14e

as possible, otherwise coupling between two limbs will be too loose, and external fields will affect same too much.

Housings for L3a and L3b should be equipped with well fitting, and easily removable, covers.

Mounting.—Whole assembly may be mounted on either wooden base board or folded metal panel. Meter and capacitor mounting panels being of good quality insulating material. Individual meters, capacitors and switch can be mounted on ceramic insulators if desired.

Relays, if employed, should be equipped with H.F. insulation and contacts having large surface area.

Earths.—All components which have to be earthed should be connected by copper busbar of generous proportions, and "run" of busbar should be continuous from input to output.

TABLE 1

Antenna Description	3.5 Mc.	7 Mc.	14 Mc.	28 Mc.
Total Length	136 ft.	136 ft.	136 ft.	136 ft.
Wave Length End Fed	½ wave	1 wave	2 waves	4 waves
Impedance End Fed	1,200 ohms	1,200 ohms	1,200 ohms	1,200 ohms
Wave Length each side of centre	¼ wave	½ wave	1 wave	2 waves
Impedance at centre	75 ohms	1,200 ohms	1,200 ohms	1,200 ohms
Total Length	67 ft.	67 ft.	67 ft.	67 ft.
Wave Length End Fed	¼ wave	½ wave	1 wave	2 waves
Impedance at End	75 ohms	1,200 ohms	1,200 ohms	1,200 ohms
Wave Length each side of centre		¼ wave	½ wave	1 wave
Impedance at Centre		75 ohms	1,200 ohms	1,200 ohms

TABLE 2

Zo of Line	Tuned	Wave Length	Z-in at Tx.	Z-out at Ant.	Remarks
75	No	Any	75	75	Both Z-in and Z-out must equal Zo for "flat" operation.
	Yes	¼ wave	75	75	
	„	¼ wave	45	1,200	(i) Applies equally well to all odd multiples of ¼ wave.
	„	½ wave	75	75	
	„	½ wave	1,200	1,200	(ii) Nil transformation over ½ wave or multiple thereof.
300	No	Any	300	300	NOT APPLICABLE TO ANT.
	Yes	¼ wave	1,200	75	Refer to (i) above.
	„	¼ wave	75	1,200	Refer to (i) above.
	„	½ wave	75	75	Refer to (ii) above.
	„	½ wave	1,200	1,200	Refer to (ii) above.
600	No	Any	600	600	NOT APPLICABLE TO ANT.
	Yes	¼ wave	5,000	75	Refer to (i) above.
	„	¼ wave	300	1,200	Refer to (i) above.
	„	½ wave	75	75	Refer to (ii) above.
	„	½ wave	1.200	1,200	Refer to (ii) above.

TABLE 4

Coil	Diam.	Approx. Length	Wire Gauge	No. of Turns	Turns per in.	Mounting
A	3 inch	3 inch	16 S.W.G.	38	close	On Former
B	3 „	3 „	16 „	27	9	„ „
C	3 „	2½ „	14 „	20	8	„ „
D	3 „	3 „	10 „	14	5	Self Supporting
E	2 „	3 „	10 „	14	5	„ „
F	2 „	2 „	10 „	8	4	„ „
G	1½ „	1½ „	10 „	6	4	„ „
H	1½ „	1 „	10 „	4	4	„ „
J	1 „	1 „	10 „	4	4	„ „
K	1 „	1 „	10 „	3	3	„ „
L	1 „	1 „	10 „	2	2	„ „
M	3 „	¾ „	10 „	3	4	„ „
N	2 „	½ „	10 „	2	4	„ „

Deviation from the above figures will give satisfactory results; however figures given will prove useful in early stages of experiment.

V.H.F. ANTENNA

A few practical notes may be more acceptable to a large number of the chaps who use V.H.F. channels, so the following table is included for 55 and 75 ohm co-axial cables, and other impedances can be worked out from the foregoing notes.

Co-axial Cable

Diameter of each Element	55 ohm	75 ohm
¼-inch	0.88-inch	1.225-inch
⅜-inch	1.32-inch	1.873-inch
½-inch	1.76-inch	2.45-inch
⅝-inch	2.20-inch	3.06-inch
¾-inch	2.64-inch	3.675-inch
⅞-inch	3.08-inch	4.287-inch
1-inch	3.52-inch	4.9-inch

This table gives a close approximation of the stub element spacings (centre to centre); an exact match can only be obtained by adjustment under operating conditions.

A suggestion to keep the rain and moisture out of co-axial cable and connections is to enclose the co-axial in an old cylindrical coil can after using a good "Poly" cement to seal the end of the cable. This can be connected to the outer braid via the connection and it will have little or no effect on the operation of the aerial.

TREATMENT OF STORED COMPONENTS BEFORE USE

Before replacing components, such as H.T. transformers, filter chokes or condensers, etc., back into service after a period on the shelf, thoroughly bake in oven in order to remove any moisture absorbed during period of idleness. The best method of proving insulation is to measure same with a "Megger" or "Megohmmeter," before and after baking. If oven is not available a few incandescent lamps in air tight box will do the trick.

TABLE 3

Freq. Band	Line Z-in	Z of Tank	L1 Coil	L2a and L2b ea. Coil	C1 & C2 Max. Cap ea.	L3a and L3b ea. Coil	Connection
3.5 Mc.	45 ohms	45 ohms	M	H	250 pfd.	Nil	Series
	75 „	75 „	M	G	„ „	„	„
	300 „	300 „	M	E	100 „	„	Paral.
	600 „	600 „	M	D	„ „	„	„
	1,200 „	1,200 „	M	C	„ „	„	„
	5,000 „	5,000 „	M	C	„ „	A	„
7 Mc.	45 ohms	45 ohms	M	J	250 pfd.	Nil	Series
	75 „	75 „	M	H	„ „	„	„
	300 „	300 „	M	F	100 „	„	Paral.
	600 „	600 „	M	E	„ „	„	„
	1,200 „	1,200 „	M	D	20 „	„	„
	5,000 „	1,200 „	M	D	„ „	B	„
14 Mc.	45 ohms	45 ohms	N	K	250 pfd.	Nil	Series
	75 „	75 „	N	J	„ „	„	„
	300 „	300 „	N	G	100 „	„	Paral.
	600 „	600 „	N	F	20 „	„	„
	1,200 „	1,200 „	N	E	„ „	„	„
	5,000 „	5,000 „	N	E	„ „	C	„
28 Mc.	45 ohms	45 ohms	N	L	100 pfd.	Nil	Series
	75 „	75 „	N	K	„ „	„	„
	300 „	300 „	N	H	20 „	„	Paral.
	600 „	600 „	N	G	„ „	„	„
	1,200 „	1,200 „	N	F	„ „	„	„
	5,000 „	1,200 „	N	F	„ „	D	„

THE STORY OF THE DECIBEL

By D. A. GREENHAM, VK3CO*

When you receive a report from a DX station of 10 db above R9 what does that really mean? It means firstly that you're putting in a very strong signal but how strong? The R9 report means on standard definition "very strong signal" which on the DX station's receiver may represent a power of 100 microwatts input from the antenna system.

When we have 10 db **above** R9, we mean that the signal you're putting in is 10 db above 100 microwatts or the "logarithm of the ratio of 100 microwatts to your signal multiplied by 10 is equal to 10 db."

To put this in formula we have:—

$$db = 10 \log \frac{P_1}{P_2}$$

where P_1 = one power (larger)
P_2 = another power (smaller)

To arrive at the actual power arriving at the DX station's receiver we will substitute in the above formula thus:—

$$db = 10 \log \frac{P_1}{P_2}$$

$$\text{i.e. } db = 10 \log \frac{P_1}{100 \text{ microwatts}}$$

Dividing both sides by 10 gives us:—

$$1 = \log \frac{P_1}{100}$$

Take antilog of both sides A.L. 1 equals 10:—

$$\text{A.L. } 1 = \frac{P_1}{100}$$

$$\text{therefore } 10 = \frac{P_1}{100}$$

$$\text{therefore } P_1 = 100 \times 10 = 1000 \text{ microwatts.}$$

The actual power input to the receiver is now shown to be 100 microwatts.

The db formula as shown previously is:—

$$db = 10 \log \frac{P_1}{P_2}$$

where P_1 and P_2 are the two powers involved.

In Ohm's Law we all know that power in watts can be found from the following formulae:—

$$W = EI \quad \text{or} \quad W = I^2R \quad \text{or} \quad W = \frac{E^2}{R}$$

where W = power in watts
E = voltage across circuit
I = current through circuit
R = resistance or impedance of circuit.

Therefore substituting in the db formula we have the following:—

$$db = 10 \log \frac{P_1}{P_2} \quad \text{.... .... case i}$$

$$\text{or } db = 10 \log \frac{E_1 \times I_1}{E_2 \times E_2} \quad \text{.... case ii}$$

$$\text{or } db = 10 \log \frac{I_1^2 \times R_1}{I_2^2 \times R_2} \quad \text{.... case iii}$$

$$\text{or } db = 10 \log \frac{\frac{E_1^2}{R_1}}{\frac{E_2^2}{R_2}} \quad \text{.... .... case iv}$$

If in cases iii and iv the resistance or impedance is the same in both powers then we can cancel these values. This then simplifies down to the following:—

$$db = 10 \log \frac{I_1^2}{I_2^2} \quad \text{or} \quad 10 \log \frac{E_1^2}{E_2^2}$$

This resolves into:—

$$10 \log \left(\frac{I_1}{I_2}\right)^2 \quad \text{or} \quad 10 \log \left(\frac{E_1}{E_2}\right)^2$$

To square a logarithm we just multiply by 2, so we can now resolve to the following final result:—

$$db = 20 \log \frac{I_1}{I_2} \quad \text{or} \quad 20 \log \frac{E_1}{E_2}$$

To apply this in practice we may have a certain current flowing in a 70 ohm co-axial cable to the antenna. If we increase or decrease this current we can see what difference will be made to the distant receiver.

It has now been universally accepted that one S or R point is a change of 6 db in received signal. To apply this to a practical case we may have a current in the co-axial cable of, say, 0.5 amp. To raise the signal this current produces by 2 S points, i.e. from say S7 to S9, we need a 12 db increase in power. We will calculate what extra current is required in the co-axial cable.

$$db = 20 \log \frac{I_1}{I_2}$$

$$12 \text{ db} = 20 \log \frac{I_1}{0.5 \text{ amp.}}$$

Divide both sides by 20—

$$0.6 = \log \frac{I_1}{0.5}$$

Take antilog of both sides (A.L. .6 equals 3.981).

$$3.981 = \frac{I_1}{0.5}$$

$$\text{therefore } I_1 = 3.981 \times 0.5 = 1.9905 \text{ amps.}$$

or approximately 2 amps.

Therefore to increase 2 S or R points would have to raise the antenna co-axial cable current from 0.5 amps. to 2 amps. or 4 times the current. (Incidentally, this method can be used to calibrate your S or R meter.)

It can be shown from calculation that a power increase or decrease of 2 is equal to a change of 3 db or ½ an S point. This means that if we increase the power of our transmitters from 50 watts to 100 watts the difference is ½ an S point.

From calculation it can be shown that the American limit of 1,000 watts compared to our 50 watts is not so great in actual S points or db relationship.

$$db = 10 \log \frac{P_1}{P_2}$$

$$db = 10 \log \frac{1000 \text{ watts}}{50 \text{ watts}}$$

$$= 10 \log 20 \quad (\log 20 = 1.301)$$

$$= 10 \log 1.301$$

$$= 13.01 \text{ db.}$$

Therefore the Ws are actually only 13 db above us before they leave the shack. If we put in an antenna installation with directional properties we can quite easily make up that 13 db and more with quite a saving in the power bill!

We will now give a typical case, assuming the ether conditions are equal and stable both ways and equal impedances are used in the co-axial cables. Assuming we need 1.0 microwatt to produce an S9 signal in California and we are transmitting 10 watts from the antenna. If we receive an S9 report the loss in the transmission path will be:—

$$10 \log \frac{P_1}{P_2} = \frac{10{,}000{,}000 \text{ microwatts}}{1.0 \text{ microwatt}}$$

$$= 10{,}000{,}000$$

$$10 \log 10{,}000{,}000 = 10 \times 7 = 70 \text{ db.}$$

*35 Bertram St., Gardenvale, S.4.

For the purposes of demonstration let us make 1 watt = 0 db, then the level transmitted from our dipole antenna is:—

$$db = 10 \log \frac{\text{10 watts}}{\text{1 watt reference}}$$

$$db = 10 \log 10$$

= 10 db above 1 watt reference level.

By this we mean that the power transmitted from the antenna is 10 db above 1 watt or +10 db on 1 watt. This passes through the ether path of 70 db loss and arrives at California at —60 db below 1 watt; i.e. +10 —70 = —60 (algebraic sum).

Now taking the reverse case, i.e. W6 to VK, we have 100 watts in the antenna which is—

$$10 \log \frac{1000}{1} = +30 \text{ db.}$$

This signal leaves W6 land at +30 db, passes through the 70 db loss path and arrives here at—

+30 db —70 db = —40 db below 1 watt.

To improve our signal in W6 land we could either increase power to 1000 watts or utilise a more efficient antenna system. A three or four element close-spaced beam will give a forward gain of 20 db if designed correctly. This will now give us a 20 db lift which brings the VK power into comparison with the American kilowatt.

It will be seen that by using 10 watts in VK land and 1000 watts in W6 we can exchange equal signal reports by using a directional antenna at VK transmitting end. This may sound fantastic to the old-timer but it is fact and can be very easily proved.

We can make a scale to show what power is required to increase and decrease S points assuming 10 watts is producing an R5 report.

	Report	Power needed in Antenna
	S1	0.039 w.
	S2	0.156 „
	S3	0.625 „
	S4	2.50 „
Reference report	S5 using	10 watts
	S6	40 „
	S7	160 „
	S8	640 „
	S9	2560 „

These figures may appear fantastic but it is fact and it shows that the man with 10 watts has as good a show of working DX as the next man even though he may be using 1 kw. or so. This will definitely substantiate the old saying that "if you can work 'em with 100 watts you can work 'em with 50!"

UNIRAD CO-AXIAL CABLE SPECIFICATIONS

Electrical

No. 4: type, PT-5-M; impedance, 45 to 52 ohms; prop. factor, 0.65 to 0.68; loss per 100 feet, 0.5 d.b. at 5 Mc. and 4 d.b. at 200 Mc.; capacity per foot, 35 mmfd.

No. 5: type, RP 126/28; impedance, 41 to 52 ohms; prop. factor, 0.65 to 0.68; loss per 100 feet, 8.2 d.b. at 600 Mc.; capacity per foot, 37 mmfd.

No. 32: type, PT-1-M; impedance, 75 ohms; prop. factor, 0.65 to 0.68; loss per 100 feet, 8 d.b. at 200 Mc.; capacity per foot, 25 mmfd.

Mechanical

No. 4: inner conductor, 7/.032-inch; inner diameter of outer conductor, 0.285-inch; overall diameter, 0.405-inch.

No. 5: inner conductor, 7/.032-inch; inner diameter of outer conductor, 0.285-inch; overall diameter, 0.405-inch.

No. 32: inner conductor, 1/.022-inch; inner diameter of outer conductor, 0.128-inch; overall diameter, 0.230-inch.

SUCH NICE PEOPLE

BY "GREMLIN"

Greetings, Clients and others. An infant is born—a prodigy of "QRZ" of "Amateur Radio" fame in the '34s, 12 years BQRM to you.

* * *

Don't know if I'm in diapers or a dilemma. These fone boys have me really nicely confused with their reporting system. QSA5 R7 some say. I guess they mean readability 5 strength 7, but whatever happens, don't say so. Let's keep it all confused with no uniform system, I like it that way. Why not use an RST system, readability, strength and twaddle, the latter in units of kilowatt hours?

* * *

Dropped in at a VK3 meeting a few weeks ago. Nice gang down there. Nice YL's, air conditioned meeting room, padded chairs, and they agree on things. Some VK2s have the wrong idea.

* * *

Was told 3RX has the old glint in his eye and is dusting up the spark coils. Speaking of old times, 3WG has a brand new shack, got AC running in at the moment. Some blokes have it running out as well, ask 3RW how to mutilate the S.E.C. product.

* * *

Good fun keeping the chap the other end in suspense. 2CL thinks so too, 15 CQs and one signature. Don't think for one moment that's a record. I'm not going to tell you my best score to date, not until I'm a bit quicker on my coloured beads over thirty. 3VJ provides good counting practice.

* * *

Ever listen to 2AEZ? Don't, Ern is just one of the many nice ops, some blokes might get ideas and then where would I be?

* * *

2AFS makes a nice QSO, no need to get bored listening to him. If there isn't a good hefty broadcast program coming over, other background noises make fine listening.

* * *

Heard 3XN asking if there was any hum on his carrier. You should spend more time on the Palmolive Show OM.

* * *

2CI believes his V aerial is responsible for getting out. Maybe your modulation helps.

* * *

2AHA thinks power is the secret to success. Reduced it to a bit over 50 watts, well under half normal power and found himself still R9. Where do you get this third class of licence OM?

* * *

Well blokes and pretties, must be off, trying to solve the problem of modulating an 813 final with PP 211s on a dinkum 50 watt basis!

* * *

I guess the wx up VK4 way isn't conducive to bad behaviour, in amateur radio at any rate. Maybe the long nights will tell, I'll be listening. Haven't heard 4JU for a long time.

* * *

5FL puts out some nice fone. Believes in a "readability, strength" system of reporting too.

* * *

Non-fraternisation isn't something which developed out of the recent world wide fun and games. VK6s always found it helped in not encouraging the newcomer to amateur radio—from a QRM point of view maybe they have something. After all you aren't born with a key in your hand although I wouldn't be sure of microphones. Every youngster we put on the right line today will be an asset to our cause in the future. On that score I noticed at the aforesaid VK3 meeting, a sprinkling of curly heads adorned by that peculiar form of headgear applicable to school age in that State. I came away with a nice warm glow—like a few final stages I know!

* * *

Watch for me next month, you might be lucky.

We welcome the prodigy of the old "QRZ" who, in days gone by, did much to help the elimination of bad signals from the amateur bands. If "Gremlin" follows in the footsteps of his "Master" many bad signals, poor operating, etc., should quickly disappear.—Editor.

A.O.C.P. CLASSES
VICTORIAN DIVISION

Applications are invited from members of the Victorian Division for the position of:—

1. Class Manager
2. Theory Instructor
3. Morse Instructor

for the next series of A.O.C.P. Classes to be conducted by the Division.

Particulars regarding rates of remuneration, etc., may be had from the Secretary, Wireless Institute of Australia, Victorian Division, Box 2611W, G.P.O. Melbourne.

Applicants are requested to forward their applications immediately.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

State QSL Managers please note that cards for VS1QB will be accepted by VS1BX, PO's Mess, R.N.A.S., Sembawang, Singapore. Cards for VS1FB will be delivered by G6GL at his G address.

The par in February issue re non-QSLling to PK6HA has drawn blood in several places. I hope it is instrumental in removing Lt. Hagers' cause for complaint with regard to VK.

"Barney" (VK3VD) was temporarily located at the Lighthouse Cape Otway, Victoria, during March and April and misses his rig. Sorry "Barney" the efforts to obtain you the loan or hire of a suitable Xmitter was of no avail.

A letter has been received from Lloyd D. Colvin, Major, 71st Signal Service Battalion GHQ, U.S.A. Forces Pacific, dated 7th February. "With the approval of the A.R.R.L. my wife and myself (both licenced amateurs) are acting as QSL Bureau for Japan Amateur Stations. All correspondence should be addressed: Major Lloyd D. Colvin, J2AHI, 71 Sig. Ser. Bn., A.P.O. 500 c/o. P.M. San Francisco U.S.A." As this Bureau has the backing of the A.R.R.L. it probably supplants that started by Major Drudge-Coates the QRA of which was advised in a past issue of "A.R."

A pleasant surprise during February was a note from VK3TL, of Kerang, stating he had resumed activities. Glad to hear of it Treb and guess many others will feel the same about your resumption.

VK3WL is temporarily located in Sydney. It is not known whether he has lifted out a VK2 call sign.

VK2ANE, Mobile Marine on S.S. Chertsey, writes from Fremantle to advise that at end of February he is leaving VK and returning to England with an interim stay in Italy. He bemoans the fact that his station will have to remain silent until he reaches G unless he can lift out a temporary call in Italy. Eric thanks all VKs for the co-operation and splendid hospitality he received and enjoyed whereever he went in VK and states that while in VK waters he worked 32 countries, 200 VKs and made WAC five times, all on 20 fone. He desires all outstanding wallpaper—and there is a lot—to be sent either to the VK2 Bureau or to his home QRA at 12 Downs Road, St. Helens, Lancs., England.

A Xmas Card has just arrived from the J.A.R.L. c/o. Tokio Institute of Technology Ookayama, Meguroku, Tokyo, signed by the President, Dr. Hidetsugu Yagi, and stating the officers to be J2GY, J2IS, J2JJ, J2KG, J2KJ, J2NF, J7CG. It is presumed these call signs are of the old vintage and maybe the officers listed are the sole surviving members.

The following has also been received from Germany: "On 17th August, 1946, the W.B.R.C. was created in Stuttgart in order to represent the interests of the German shortwave amateurs. The forwarding of QSL cards has been allowed by the Military Government and thus we are able again to send receiving reports (the devil take em—VK3RJ). Incoming QSLs should be addressed to W.B.R.C. QSL Manager, Jorg Issler, Stuttgart-S, Christophstr 27, Germany, American Zone." A brochure sent with the letter sends greetings to all amateurs and the hopes that 1947 will see the restitution of amateur licences to the Ds and thus enable them to renew their efforts toward the amateur movement and contributing to the co-operation between countries with the ultimate aim of securing everlasting peace of the world.

PZ1RM, of Surinam, enclosed the following request with a bunch of cards. "Would appreciate any old copies of the VK magazine so I can see what's going on down under. I have a sister in Brisbane." Would anyone replying to his QSL oblige with an old "Amateur Radio."

The official QSL Bureau for China is C1KC, QSL Bureau, C.A.R.L., P.O. Box 409, Shanghai, China.

A note from BERS 195, Eric Trebilcock still located at Box 12, Wynyard, Tasmania, shows Eric to be as active as conditions will permit. He states "Post-war I have heard 133 countries. I have made 71,876 log entries in 21 years and aiming at 100,000!" Quotes the following choice ones heard I6USA in Eritrea, CT2XA in Azores, LI2CL QTH unknown. All these on 14 Mc. Eric is busy erecting directional antenna for the listening section of the B.E.R.U. He is living 22 miles from his job but says the daily journey is worthwhile. Eric hopes to lift out his call sign again when situated where he could use it.

Writer got quite a negative thrill when he noticed on a card from G6YL, the following accusation, "Tks vy for QSO. Sri VK3RJ on fone was on my freq. and in the CW portion of the 28 Mc. band. Too bad." The card was to VK3NM and writer, with just resentment surging through his being, tackled Norm about it. However VK3NM was able to assuage the ruffled feelings by stating that he had told Barbara (G6YL) that VK3AJE was on her freq. on fone. So Barbara couldn't have been receiving too well on that day.

Received the following request this month which, when translated, read as under. "Am desirous of emigrating to VK, am 35 years old and by trade an engineer, etc., etc." Hans Schneeburg, Engineer for Fermneldetechnik, Fallingbostel, Germany. Sorry Hans,

(Continued on Page 24)

FEDERAL NOTES

FEDERAL CONVENTION

By the time this issue of the Magazine reaches you the 17th Federal Convention of the W.I.A. will be in full swing, possibly will be over. This Convention will be one of the most important in the history of the Institute, as it is expected that the work done on the new Constitution during the yast year by the Federal Executive will bear fruit in the adoption by the Federal Council of a Constitution based on the draft submitted to the Divisions some little time ago.

With its organisation and financial structure placed on a sound basis the Institute will be ready to go forward to full achievement of its aims. The Agenda for the Convention has been circulated to the Divisions, and no doubt has been carefully considered by them. While this year's Agenda is not the collossal paper that last year's was, there are nevertheless a number of very important items, and much of a constructive nature should come from the deliberations of the delegates assembled in Melbourne at Easter for this, the most important event of the year for the W.I.A.

AUSTRALIAN DX CENTURY CLUB

We have previously mentioned in these notes the impending formation of the Australian DX Century Club. The proposed rules have been circulated to the Divisions, and constructive comments have been received from them. It now only remains for the rules to be rewritten in the light of these comments and the Club can get into action. The Convention being only a few weeks off, the Federal Executive has decided that the finalisation of the rules can best take place at the Convention. We hope that it will be possible to publish the rules in the form finally adopted in the next issue of "Amateur Radio" and if so, it may be possible to commence listing calls of members in the June issue.

EXPEDITION TO USE HAM RADIO

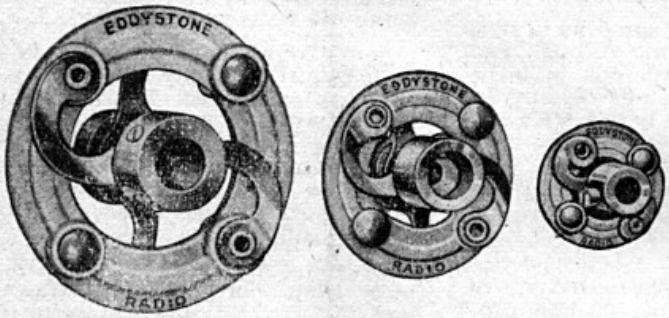
An expedition of a most unusual kind, designated "Expedition Kon-Tiki," led by Mr. Thor Heyerdahl, a Norwegian ethnologist, is about to leave Peru on a raft, to drift across the Pacific Ocean. The object of the expedition is to test theories of the westward migration of the Polynesian race, and Mr. Heyerdahl and his companions expect to be adrift for a period of about four months.

The raft, which measures only about 30 feet by 15 feet, will be equipped with radio gear, operating in the 14, 28 and 56 Mc. bands, the call-sign allotted being LI2B. As the

(Continued on Page 24)

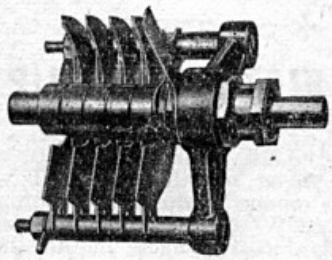
For the 'Short Wave' Amateur

THESE 3 FAMOUS EDDYSTONE COMPONENTS



FLEXIBLE COUPLERS—Completely flexible yet free from backlash. Insulating material—white DL12, which possesses excellent electrical and mechanical properties. Spring metal arms are of phosphor bronze.

Cat. No. 50	Large Flexible Coupler for ¼" spindles	4/11
Cat. No. 529	Medium Flexible Coupler for ¼" spindles	4/5
Cat. No. 550	Small Flexible Coupler for 5/32" spindles	4/1



LOW LOSS MICRODENSERS—This popular Microdenser possesses many excellent features, including soldered and heavily silver plated brass vanes, substantial DL9 end plate, adequate bearing bush and extended spindle for ganging purposes.

Cat. No. 1094	20 *p*F Microdenser, double spacing	11/5
Cat. No. 1129	40 *p*F Microdenser, double spacing	12/6
Cat. No. 1093	60 *p*F Microdenser, single spacing	13/5
Cat. No. 1130	100 *p*F Microdenser, single spacing	15/-
Cat. No. 1131	160 *p*F Microdenser, single spacing	15/7

V.H.F. INTERCHANGEABLE COILS—These coils are wound with 14 gauge high conductivity electrolytic copper wire and are heavily silver plated. A 4-turn coil covers 4-6 metres combined with the 3-turn as aerial coupling. The 5 and 8 turn coils cover 6-8 and 8-10 metres combined with the 4-turn as coupling coil.

Cat. No. 601	3 turns Inductance 0.22 *u*H	3/ 9
Cat. No. 602	4 turns Inductance 0.32 *u*H	3/9
Cat. No. 603	5 turns Inductance 0.43 *u*H	3/10
Cat. No. 604	8 turns Inductance 0.74 *u*H	4/2
Cat. No. 605	10 turns Inductance 1.03 *u*H	4/5
Cat. No. 606	FREQUENTITE BASE for above	2/11

●

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AN APOLOGY—In our March advertisement Cat. No. 581 (Condensers) was listed as 6/5. This price should have been 10/3. We regret this error and trust that it has not caused you any inconvenience.

RAMBLINGS ON DX BANDS

WESTERN AUSTRALIA

28 Mc. Fone.—Very spasmodic during this month when band has been wide open on three or four occasions.

Europe.—Many good signals heard but conditions have only favoured new contacts. Apart from a few Cs, LX1SI has been the only one from this continent during early evening.

Africa.—Toward end of month ZSs coming through very well. ZS1AX, ZS5BS and ZS6JB among the best from Southern Africa in afternoons with OQ5BH, Belgian Congo, and SU1HF, Egypt, providing excellent QSOs.

Asia.—The regular VU, VSi, VS9, J, and C1 stations frequently heard almost any time of the day and night although CR9AG, in Macao, makes an fb contact in the mornings.

North America.—From 0700 to 1300 almost daily Ws pound through and contacts are too numerous to mention—the majority being W6s and 7s, but it is usually 1100 before VK6 has been able to make contact. Canadians from West Coast have also been prominent. VE7EL, VE7AJU, VE7UM and VE7AJN, British Columbia, and VE6GY from Alberta, being nice QSOs.

South America.—The week-end of February, 22-23, from 1300-1500 provided quite some excitement in VK6. PY2CK (Brazil), HK3DD (Columbia), OA4AX (Peru) being heard. Your attention is drawn to the personal pars for the VK6s who made contacts.

Oceana.—Few good signals apart from KA and PK coming through. KH6FC (Hawaii) being the furthest East worked, with a few ZLs and FK8NQ (New Caledonia) being surprises and turned out nice QSOs.

14 Mc. CW.—The last fortnight of February provided plenty of DX for the cw hound, although conditions earlier in the month were very unreliable. Europeans of a late evening were plentiful up to about the 18th. ON4UT, ON4ZQ (Belgium), UA3KAB (U.S.S.R.) and HB9CX (Switzerland) making good QSOs.

North Americans from 1600 thru the night to 0900 in droves—particularly Ws with few VEs. CM7AA, from Cuba, being interesting.

Asia, Africa and Oceana have also been plentiful but no contacts made during this month.

14 Mc. Fone.—Europe.—This continent falling off rapidly of late although earlier in the month a few excellent contacts made after 2300—G6XR, G2, UZ, ON4US, PA0UM being the pick.

Africa.—This continent also not as reliable as it was earlier, but nevertheless good QSOs have resulted after 2200. ZS5M, ZS6IW, ZS2CI and ZS6LF were the best of the Southerners with ZE2JD (Southern Rhodesia) and VQ8AD (Mauritius) being the pick.

Asia.—Plenty of VU, C1, VS, and J contacts made (all the usual stalwarts who keep Asia on the air). It's interesting to note that J4 prefix belongs to all VK and ZL Hams in B.C.O.F. Japan.

North America.—Conditions have changed in that Ws and VEs are now coming in via the Great Circle path from the North East and may be worked by the dozen almost nightly from 1700 to 2200 and sometimes later. KL7FY (Alaska) was a nice contact on the 9th at 1645.

Central America.—A few more of these rare birds coming through from 1600-2100, TI2OA (Costa Rica) being heard every week-end, but HR1MB (Honduras) and YN1LB (Nicaragua) being the only two contacted.

South America.—A surprise contact with YV5ADX (Venezuela) was made on the 21st at 1900. The unexplainable conditions prevailing probably from the recent sunspot activity resulted in him being worked with beam due East and his beam due North West. Work that out you Wave Propagation Bulletin readers!

Oceana.—A good variety of DX to pick from here—KH6IU (Hawaii) and VR2AL (Fiji Islands) being the pick.

We learn that VK3KX has now reached a total of 119 countries post-war. This is certainly a grand score. Wonder if any other VK Hams have a greater total? Write to Box 2611W, G.P.O. Melbourne, and let us know your total post-war countries and how you find the DX bands at your location.

FIFTY AND UP

VICTORIA

The U.H.F. group, which got under way three months ago and which meets on the Wednesday evening immediately following the general W.I.A. meeting each month, had a most successful meeting on Wednesday, 12th March. 23 members were present; VK3s: LS, AKI, ARN, AJH, YJ, XA, JU, TF, WW, DA, QO, YS, ABA, LR, MN, HK, BD, JO, RN and NW, and Messrs. Dow, Allen and Duncan. Owing to the retirement of Dave Medley (3MJ) from the position of chairman, 3NW was asked to carry on until such time as he leaves for the land of the Gs, and the meeting elected Fred (3YS) and his brother Jim (3ABA) as joint chairmen thereafter.

After a brief discussion of signals heard, etc., the meeting took the form of an inspection of portable 50 Mc. gear. Complete portable units of 3YS (2), 3HK, 3LR and 3NW were "on show" and those of HK, LR and NW were set in operation. A number of contacts was made from each of the rigs. Stations worked were 3GG, 3RZ, 3AHB and 3AFQ, using both a dipole in the W.I.A. rooms and another one on the roof. Some of the audience appeared quite startled on hearing the S9 reports that

were obtained from this low power gear—none of the portables running more than 4 watts input!

It is intended to collect all the data concerning these portable outfits and write it up as a short article for this Magazine. Certainly the rigs were diverse enough in layout, circuit design and modulation systems, ranging from 6V6GT xtal osc. and quadrupler into an 807, single choke Heising modulated by D104 into 6C6 and 42; to 6V6 xtal osc.-dblr., 6L6 dblr. and 832 final, modulated by class A 45s and carbon mike. Receivers were equally interesting and diverse. At the next meeting a talk will be given by 3MJ on "Receivers for U.H.F. work" and it is hoped to have several there for demonstration.

No further DX has been worked from VK3 since the last notes appeared, but 3NW, sitting on Mt. Buninyong on Monday, 10th March, heard an unmistakably American voice discussing 50 Mc. activity and conditions. Signals peaked to S6 and appeared to come from the north east although, as only a dipole was in use and 3NW was too scared to try it "end on" for fear of losing the signal altogether, the direction could not be obtained very accurately. The signal was heard twice, for periods of 30 seconds or so, but faded each time before calls were given. 3GG reports hearing a similar signal on the 14th March.

We believe that 4HR has now had a two-way contact with a KH6 but confirmation of this is yet to come. However we do know that Tibby heard a KH6 and has had the report verified. The M.U.F. is still around 49 Mc. and some results should be obtained shortly.

3NW and 3MJ went to the Western Zone's Convention at Ararat on 9th and 10th March, plus the 50 Mc portable outfit and Dave's receiver. A pleasant time was had in company with the country boys, not to mention a splendid "dinner." On Sunday afternoon we sat in the sun on a hill overlooking Ararat and worked 3YS and 3ABA who were on Mt. Buninyong. Signals were very good over this 60 miles path. Also operating just out of the town was 3AMP and he was able to have a very good contact with 3YS and 3ABA. 3AMP is running 25-30 watts to an 807 in his portable rig; the oscillator being an e.c.o. 6V6 on 25 Mc. doubling in the output. The final is modulated by a 6N7. Other tests were carried out between Horsham and Ararat, and between Ararat and Melbourne but the results were nil.

3AMP has heard Melbourne stations in Colac, his home town, but signals are very weak and he has concluded that Colac is not a particularly good place for 50 Mc. work. From a hill just outside the town, however, he hears the city boys quite well and will go thither for field days.

Several new stations have appeared on the band during the month. 3RZ is putting out a good signal locally but lacks a beam at present. 3XA is back again, we hope for a longer stay this time. 3XJ has also appeared with a good signal, and last but not least (definitely not!) is 3IK, who must have become tired of earbashing the 7 Mc. fellows and is now going to give the higher frequency merchants a few doses.

3HZ, in Warrigul, now has a 3-element beam which has increased his signal about 6 db in Melbourne. The strange thing about Murray's signal is that we get it at surprisingly different strengths in different parts of the city. 3HK always receives him at a steady 6-8 db over S9. 3NW usually notices fading between S4 and S7. Others get him anywhere between S4 and S8 according, it seems, to their location. Differences in receivers, at least to this large degree, can be ruled out and it is an interesting problem why the signal behaves like this. Anyway Murray has now worked quite a number of the Melbourne boys including HK, YS, AHB, MJ, NW, etc.

166 Mc. Band

Activity on this band in Melbourne seems confined to the south east and southern suburbs at present. Stations are now on this band almost nightly and those definitely on and capable of two-way work are 3NB and 3ACM

in Hartwell, 3UJ in Ashburton, 3OF and 3MB in Hampton, and 3TZ in Sandringham. Apparently 3NW can transmit but is unable to listen, while 3YS can listen but is unable to transmit.

Simple equipment is being used by these stations. In brief: 3NB is using push pull 2C22s with cathode and plate lines, a simple vertical dipole aerial and a three valve separately quenched superregen. 3ACM is using a transceiver with a single 2C22 and 6F5-6V6 modulator for I.C.W., a six element rotary beam 16 feet high is the aerial.

3UJ is using a 50T with 35 watts input, an eight element Yagi beam and a superregen. superheterodyne for receiver. 3OF and 3TZ are using transceivers with one 7193 in the R.F. part, and three element rotary beams. 3MB is using a 7193 in a linear oscillator and an acorn tube superregen. receiver. His aerial is a four element rotary, 15 feet high.

All aerials are vertical and power inputs range from 4 to 12 watts in most cases. Interesting results have been obtained, the longest two-way contact is at present 3ACM to 3MB, about 7¼ miles with no intervening hills in the line of sight. 3ACM and 3NB have been heard by 3YS, with two ridges about 125 feet higher than either station breaking the line of sight.

3NB has been heard in the Dandenong Ranges and at several points on the road there and back. The signal was heard near Bayswater on a road about one half mile behind a rise forming the horizon. In this regard latest work from England suggests vertical aerials are better than horizontal ones for working to locations in the shadows of hills.

Average height of aerials at present being used is about 18 feet, but with a general increase in height, signals should be heard at reasonable distances. Nothing is known about activity, if any, in the northern suburbs, but with the present nightly activity, stations should find it worthwhile to give the 166-170 Mc. band a trial for interesting experimental work.

NEW SOUTH WALES

With the knowledge that the maximum usable frequency is in the region of 50 Mc. for the month of March, the activity on the 50 Mc. band in Sydney and the outer metropolitan areas, which for want of space we will include the Blue Mountaineers, is quite understandable, and any night of the week the following stations may be heard and contacted with a minimum of trouble. In the order of frequency starting from the low end of the band:—

VK2s: ZN, AGL, AHF, NO, JU, ABZ, EM, AC, AGO, YQ, MQ, LQ, LS, NP, AEX, LY, LZ, ABC, FO, AFE, AFO, WJ, DF.

Quite an imposing list to be sure, and one must conclude that as far as the city of Sydney and its outer suburbs, which as already intimated, includes the "three mountaineers"—2LY, 2LZ and 2AFO—is concerned, activity is most intense and if enthusiasm is any criterion then we will not have to wait long for some startling developments to occur in the DX line with overseas signals breaking through.

We have no news of the doings of the rest of the N.S.W. U.H.F. enthusiasts, but now that the W.I.A. has appointed an officer to handle any reports that they have to offer, and with the major thought of making these reports general knowledge to the rest of the world, so to speak, we know for sure that they will rally to the cause and forward any activities, however small, to the right quarter for publicity in "Amateur Radio" which is naturally the mouthpiece for members of the W.I.A.

We understand in the Newcastle area also that activity has reached a reasonably high level and only needs a breakthrough of Interstate signals to give the necessary encouragement to the persons concerned.

So summing up the situation one can safely say without fear of contradiction the N.S.W. gang who are actively engaged on the U.H.Fs. are at least doing their share towards justifying their existence on these frequencies.

The position is a little different on 166 Mc. and this band needs a lot of populating. VK2s: ABZ, AEE, WJ, LZ, AFO and LY are regulars and hold nightly contacts discussing this and that, and one is struck by the fact that very simple equipment is being used and results are remarkable considering the very low power that is being employed.

VK2KI has had astonishing results with mobile transceiver running from vibrator supply and holds the record along with VK2ABZ of contacting two-way telephony between Sydney and Bowral on the Southern Alps.

So the writer respectfully suggests that the persons who are really keen to get going on 166 Mc. contact any of the above mentioned who will gladly supply the necessary information as to what equipment they are using and will readily extend help to those who have difficulty in finding the band.

With the recent sale of A.S.V. and I.F.F. equipment in Sydney however, we can expect a few new stations on the air in the near, if not immediate, future.

Up to the time of compiling these notes, nothing is known to have been attempted, at starting operations on 1345 to 1425 Mc., but in Sydney VK2s NO, WJ, AEE, ABZ and NP have been heard discussing the various characteristics of the familiar, although hard to obtain "Lighthouse" type of tube, so perhaps in the near future an effort may be made to get going on this band which has as yet to prove itself as being useful in the communication field.

As one idly turns the dial listening in on the various conversations on the U.H.Fs. one thought that seems to stick right out above any others is the absence of the familiar "rubber stamp" type of jargon that exists on the lower frequencies. Common phrases such as "OK on me being OK over there OM, that's OK," and such like with a few "Hi-His" and "handles" thrown in for good measure and with a couple of "very best 73" repeated here and there regularly, just to express good fellowship, seems to me to be rather superflous, and quite unnecessary when contacting each other sometimes as much as three times per day and could very well be dispensed with, with no loss to prestige.

Operators who indulge in this practice could very well listen occasionally to the contacts on 50 Mc., which follow excellent procedure and with originality the foremost feature; and the general discussions on experiments previously carried out, gives the listener the impression that here, at least, are a band of enthusiasts who devote practically all their spare time to real experimentation on radio techniques in general which after all is the only reason for us being on the air, according to the wording of our licence.

We all agree that some over-the-back fence "chatting" is essential at times to enable us to carry out our experiments, but listening to some of the stuff that is turned out like gramaphone recordings leaves one with a strong desire to turn to something of more technical interest.

However we are not here to criticise the doings of the low frequency gang but to try and stimulate interest on the U.H.Fs.

We know it's not going to be easy, but with a lot of co-operation on the part of the Interstate divisions of the W.I.A. in exchanging reports, etc., on all activity on the U.H.F. bands, plus plenty of observational work, we do believe that the time is not so very far off when we can expect some excellent work being carried out.

We hear on good authority that VK4HR has actually contacted a W7 portable in Honolulu which would seem to indicate that the real interesting period is about to commence.

We intend later as time and space permits to include a brief description of individual station equipment belonging to the N.S.W. amateurs with the idea of stimulating perhaps an added interest in our drive for recruits to the U.H.Fs.

(Continued on Page 24)

DIVISIONAL NOTES

NEW SOUTH WALES

Secretary: Peter H. Adams, VK2JX Box 1734 G.P.O., Sydney.

Meeting Place: Science House, Gloucester and Essex Streets.

Meeting Night: Fourth Friday of each month.

A special meeting of the Division was held on 20th February to accept items to be placed on the agenda at the forthcoming Convention, but it was felt that many members missed an excellent opportunity to discuss important matters by their non-attendance.

The monthly meeting was held on 28th February and attracted the usual good roll-up for the lecture on "Batteries" given by the Secretary, Mr. Peter Adams (2JX). The lecturer was well versed in his subject, amply illustrated by slides, and held the attention of all. Prior to the lecture, the morse recording made for the recent Field Day was played and members were invited to submit their interpretation of the morse test contained therein. The winner will be announced at the next General Meeting. Thanks to Mr. Don Reed (2DR) for his efforts in providing the record and amplifier for the purpose.

During the month, the Technical Officer, Mr. John Moyle (2JU), who is one of the W.I.A. representatives on the Bushfires Committee, journeyed to Grenfell to assist in the demonstration there. Noel Arnold (2OJ) and Jim Taylor (2TC) were well to the fore, and the Shire officials were impressed with the efficiency of the radio communication and its overall effect on the efficiency of the organisation.

A quantity of H.F. Xtals and 455 Kc. "gates" are now to hand and will be distributed soon at a nominal figure. A quantity have been allocated for country members. It will be necessary to ballot for the H.F. Xtals.

A recent appointment as V.H.F. Officer goes to Mr. Charlie Fryar (2NP) who now becomes an ex-officio member of the Council. Charlie's interest and good work on the ultra highs needs no elaboration. There is no doubt that V.H.F. is destined to play an increasingly important role in the years ahead, and adequate representation in this field is important to the Division.

An appeal has been made for technical articles for "Amateur Radio" and to stimulate interest, Council has decided to offer a prize of £1/1/- per month, for the best entry submitted. So go to it, chaps.

Membership is on the increase every month, and more members are

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coming forward to take an active interest in the affairs of the Division. It is your Division; constructive criticism and suggestions will be welcomed at all times. And if you need any help, do not hesitate to call on the Council for advice and assistance.

COALFIELD ZONE

2KZ is still sticking to 28 Mc. and has been trying an 8JK. No success, going back to the old zepp which is much higher though. A three element rotary type going up soon. —...— 2YO, George, not heard for months. 14 and 7 Mc. are his bands. —...— 2TY heard on 7 Mc. but nil heard on 28 Mc. from Bob. How about some news of your doings? —...— 2DG who is 2TY's workmate at B.C. station 2HR is to be congratulated on taking out the 14 Mc. section of the DX Contest. Hopes to go into a new house in the Maitland area soon. —...— 2MK, Lance, spends most of his time on 7 Mc. these days and a 109 set works on 3.5 Mc. —...— 2PZ is mostly on 7 Mc. fone, a 109 set revamped does the job. Has lots of other gear under construction but servicing takes up a lot of his time. —...— 2ADT, Jack, won the 28 Mc. Section of the DX Contest and put up a fine score for an 807 and 30 watts. Has 83 countries up now and finds confirmation cards as hard to get as new countries. 208 W-VE contacts on the first week-end on 27 Mc. band and looking out for more. —...— 2YL raised 195 Ws on CW for the Sunday in the contest. DX now 104 countries and new ones scarce. Also on 27 Mc. Two new half waves in phase on 14 Mc. doing good work.

SOUTHERN ZONE NOTES

Jim, 2ANQ, is brushing the cobwebs from his gear and with cooler weather says it won't be long now. —...— Dick, 2APW, has his receiver working nicely and finds plenty of gain with 1900 Kc. I.Fs. Is working cw on 7 Mc. using 6L6 tritet and 807. —...— Hughie who was pre-war VK2VK, has returned after five years in the U.K. and U.S.A. with the Merchant Navy. Hugh intends applying for his ticket again and will be on the air soon. —...— Hilton, 2QD, has rejoined the R.A.A.F.

Visiting Hams to 2OJ recently were VKs 2TA, 2TC, 2AEY and 3TA who came a long distance to attend the Disposals Sale. How do those class C wavemeters behave chaps? —...— 2EU and 2OJ visited Howard, 3YV, recently and spent a very enjoyable afternoon. —...— We would like to hear from other Southern Zone Hams. What is doing at Wagga, Corowa, etc. Send your notes to Box 54, Albury, by the 9th of each month chaps.

VICTORIA

Secretary: A. B. D. Evans, VK3VQ, Box 2611 W G.P.O., Melbourne.

Meeting Night: First Wednesday of each month.

Meeting Place: Radio School, Melbourne Technical College.

THIRD WESTERN ZONE CONVENTION

The third post-war convention of the Western Zone was held at Ararat over the holiday week-end of 9th and 10th, and was very well attended by Hams from as far afield as Sea Lake, Melbourne, Colac, Warrnambool and Coleraine. A general field day was held on the Sunday afternoon, 50 Mc. gear being brought along by 3AMP, 3NW and 3MJ. The bush fire emergency was also given a try out by some of the boys who had brought along their FS6 and 108 transceivers. The 50 Mc. stations, working portable from the tops of convenient hills around the town were successful in working into Mt. Buninyong, near Ballarat, a distance of approximately sixty miles.

At 6.30 p.m. Hams, SWLs, Second Ops, and several guest visitors from the Country Fire Authority sat down to dinner, and at the end of this, a general meeting of the Zone was held. Matters of Zone interest were thrashed out, the main items being the Fire Emergency Network and the proposed new formation of zones in the State.

A further field day, together with visits to the local shack of VK3GN and points of interest filled in the Monday. George (3GN) is to be congratulated on his fine organising of all details of the Convention, which was an outstanding success.

WESTERN ZONE NOTES

3NK reports from Camperdown that using only 15 watts to an 807 and an 8JK, he has worked lots of DX on 14 Mc. He worked the Byrd Expedition near South Pole. —...— 3SC is almost ready to get on the air. —...— 3AMP has super regen. receiver on 50 Mc. and has heard the Melbourne boys. —...— 3JA has new rotary converter which runs very silently. —...— 3TA works W on 7 Mc. phone. —...— 3YW still has not got the new pole up. —...— 3HL thinking in terms of rotary beams, but was talked into Vs and rhombics at the recent Convention. —...— 3MC getting lots of DX with the aid of a very good V.F.O., and is nearing the century. —...— 3HG in new shack and working plenty of DX but no new ones. Was active in the W contest. —...— 3NC still getting nice DX using stacked rhombic and flea power.

QUEENSLAND

Secretary (acting): F. Nolan, VK4JU, Box 638 J, G.P.O., Brisbane.

Meeting Place: State Service Building, Elizabeth Street, City.

Meeting Night: Last Friday in each month.

This month our Publicity Officer (VK4ZU), who usually writes these notes, is unable to get notes together

and has asked VK4SN to help out this month. Howard is very QRL with Light Houses up the Queensland coast.

The February meeting of the Queensland Division was held on the last Friday of the month. Considering the very wet weather, the attendance was good. All present were of the opinion that an official W.I.A. Station was a must for VK4, and the powers that be are being approached with the hope that VK4WI will be operating in the near future. Frank, of VK4FN, was appointed Station Manager. In the meantime VK4HA will act as unofficial station for the dissemination of W.I.A. news, each Sunday morning at 1000 hours on 7100 Kc.

Nominations were received for office-bearers for 1947-48 year. Voting will take place at the March meeting. For the first time in the history of W.I.A. (Queensland Division), Country Members will receive Ballot Papers. The result of the election will be given in the next monthly notes.

4HZ of Gympie has AC laid on at last and Jim is now going QRO. —...— 4UX, Claude, has fb job for multiband operation. Good to hear you again OM. —...— 4OK, Jack and George, back on 7 Mc. again after 14 Mc. activity. —...— 4CU, Charlie, puts out nice fone on 7 Mc. Has new receiver now but QRL with local shows. —...— 4CZ, Sam, has ironed out bugs in his fone and is now putting out fine signal. —...— 4FN, Frank, has fb layout and after a visit to his shack the other day we are satisfied W.I.A. has appointed the right man as Station Manager. —...— 4ZU using portable rig with 5 watts fone. Howard takes portable on his round of Lighthouses. —...— 4EN, Eric, doing elephant sized job with QSL service. The consensus of opinion among VK4s is that Eric is the best QSL officer VK4 has had. Fb work Eric! —...— 4ES, Herb, will be holding the fort for Queensland at the Conference in Melbourne this year. —...— 4SN our Country Representative, would like to hear more from our Country Members. If the Country Hams don't let us know what they are doing in the radio field, little can be done by W.I.A. to assist them to a better enjoyment of their hobby.

Don't forget monthly meetings are held on the last Friday of each month.

SOUTH AUSTRALIA

Secretary: E. A. Barbier, VK5MD, Box 1234 K, G.P.O., Adelaide.

Meeting Place: 17 Waymouth Street, Adelaide.

Meeting Night: Second Tuesday of each month.

Once again we report a record attendance of over 140 members at the monthly general meeting of the W.I.A. on Tuesday, 11th March. Thirty members of the Illuminating Engineers Society of Australia (S.A. Division) were present as guests of the W.I.A., and all appeared very interested in the lecture on "Recording on Disc" given by Pete Bowman (VK5FM), assisted by Allan Mathews. Pete treated his subject from the angle of amateur recording as distinct from the professional viewpoint, as he said that it was remarkable the number of "hams" who had approached him at various times for advice and helpful hints.

Commencing with a description of the construction and materials of the uncut disc, he went on to describe the requirements of a good recording set up, paying quite a lot of attention to the effects of turntable rumble and groove echo, etc. He described a simple, but effective, method of checking for vibration of the recording table by placing an ordinary drinking tumbler full of water to the brim on the said table and if any vibration is present the water in the tumbler will be disturbed, thus disclosing the extent of rumble.

Pete spent quite a lot of time, both orally and practically, demonstrating the effects of equalising (or attenuation of unwanted frequencies) as needed in the effective recording set up. He explained that as the normal movement laterally of the cutting head on the inside of the disc is much less than on the outside, some attenuation of the frequencies which cause this extreme movement of the cutting head is desirable. This attenuation is achieved in various ways and one of the simplest is to vary the size of the coupling condenser in the recording amplifier. A series of condensers may be mounted on a rotating switch and could be cut in and out according to the requirements of the recording being attempted.

Mr. Allan Mathews demonstrated by means of a portable turntable, etc., the various angles on equalising and recording technique as explained by Pete.

Question time followed and judging by the number and intelligent questions submitted, it was apparent that the lecture had been a success. The most interesting question from our point of view was "has the cut disc any further use or is it thrown away." The answer "old discs make good radio chassis" was greeted with a howl of delight from the assembled Hams. A vote of thanks, proposed by "Dougall" Whitburn, was acknowledged in the usual manner.

South Australia was honored by a Commonwealth Disposal Commission auction sale of radio receivers, transmitters, and various bits and pieces of radio gear last month. When the news broke there was a frenzied dash around to inspect the "bargains" and Hams came from all directions. The auctioneers roped off the various tables apparently with the idea of keeping the boys back from the goods. Personally I think they were wise in roping off the tables because if they had not done so the enraged Hams would have been able to get at the auctioneers and tear them limb from limb. A bigger collection of junk was never exhibited. It was an insult to anybody's intelligence and to make it all the more exciting the receivers, etc., were split up and sold in sections, coils in one lot, valves in an-

other, receivers minus valves or coils and once or twice minus cabinet. The odd transmitter which by mistake came up for auction was a mate to the one that Noah carried in the Ark, and had apparently been on top of Mount Ararat exposed to the elements until the C.D.C. found it.

Chatting to a VK5 Ham who was in charge of the auction, he told me that the whole thing was organised without consulting him, so don't expect we could hope for anything better. Anyway if Ned Kelly did not turn over in his grave, I am a bad judge of prices for junk radio.

Understand from a VK5 Ham who is having B.C.L. trouble, that the P.M.G's. Department informed him that there is no such thing as exemption from obligation to avoid B.C.L. interference even if the set is a crystal set. If this is so it is necessary that the matter of B.C.L. trouble is aired at the coming Conference, as quite a number of Hams are under the impression that only "modern receivers" are meant in the regulations. This may be American practice, but won't hold water in VK. Anyway the Ham fixed the trouble OK if somewhat unethically. He accidentally burnt out the 24A in the set whilst checking up. Needless to say his stocks have slumped with the listener. COTTON on!

The recently appointed U.H.F. correspondents for this magazine have been conspicuous by their absence and this will account for the lack of information regarding the ultra highs. Anyway these frequencies have unwittingly become the "holy of holies" with an odd one or two these days, and a glance at the amateurs' code on the front page of the A.R.R.L. Handbook would not come amiss. Although when it was first printed, U.H.F. was undreamed of, the underlying principles of the code remain unaltered.

By the time you read this the W.I.A. display at the Royal Adelaide Exhibition will be on view for both praise and criticism. With respect to the praise, whilst acceptable, we were only too pleased to put a little time into giving amateur radio a boost and Jack Lester (VK5LR) is deserving of all credit. "Doc" Barbier and yours truly assisted where possible but "Johnny Lester" did most of the work, and will receive the putty medal. With respect to any criticism may I point out that nobody came forward when volunteers were called for, and therefore criticism would be out of order.

The last general meeting was probably the most outstanding that has been held for all time. The lecture was excellent, the crowd a record, never before have so many members been on their feet asking questions and sticking their necks out, and never before has a meeting finished so late. All of this adds up to one thing, enthusiasm, and while we have that we can't go under. By the way fellows, don't hesitate to have a shot at me, I love it! I am the original "Aunt Sally."

It is pleasing to note that arising out of the incidents related to us, at the last general meeting held in January, by Mr. J. E. Cawthron (5JE), we read that he was mentioned in despatches, particulars of which were released last week. Good work Ted and another boost for amateur radio.

The field day has been revived under the disguise of a picnic and with a numerically strengthened committee it looks like results will at last be achieved. The newly formed committee has taken charge of the trophies and the fear hanging over my head that I might have to put in every night listening to "Doc's" receiver for three months has now gone. Anyway bread and water would have played havoc with my figure.

VK5RR has shifted to 7195 Kc. for W.I.A. broadcasts on Sunday mornings at 10 a.m.

Enrolments for the new A.O.C.P. are filling rapidly and intending students should see the Secretary immediately to avoid disappointment.

Heard two Hams discussing DX and gathered that they thought that 14 Mc. DX was the be all and end all of amateur radio. Suggest that they check up on the good work the U.H.F. gang are doing and also remember that DX has been available for many years now and will be available for many years to come. With the power available these days and the efficiency of apparatus, DX is not so remarkable as it was ten years ago when Nobby Prince (5WK) went W.A.C. on LOOP phone. I repeat, LOOP phone.

WESTERN AUSTRALIA

Hon. Secretary: W. E. Coxon, VK6AG, Howard St., Perth, W.A.
Meeting Place: Builders Exchange, St. George's Terrace, Perth.
Meeting Night: Third Monday in each month.

The February meeting was held on the 15th of the month. No lecture was given as a large amount of business had to be conducted.

The President (6GM) reported on his visit to the Eastern States and particularly remarked on the favourable way in which suggestions had been received from VK6 by the other States. Since notes have appeared in "A.R." a new Council has been elected and stands as follows:—

President: G. A. Moss (6GM).
Vice-President: W. Schofield (6WS).
Secretary: W. E. Coxon (6AG).
Treasurer: F. C. Lambert (6FL).
Federal Councilor: G. A. Moss (6GM).
Traffic Manager: S. C. Austin (6SA).
Country Liaison: E. A. Doddy (6WH).
"A.R." Publicity: R. W. S. Hugo (6KW).
Surplus Gear Exchange Officer: J. J. Mount (6EV).
Activities and Lecture Committee: R. W. S. Hugo (6KW), H. G. Lang (6HL), W. M. Peterson (6LW), F. C. Lambert (6FL), E. A. Doddy (6WH).

At the Annual General Meeting the retiring Council were thanked for their efforts over the past difficult 12 months and the Treasurer and Secretary were handed a small donation for their untiring work.

Both these gentlemen, 6FL and 6HL suitably responded and announced that they were donating £5/5/- for a trophy; the type of competition being left to the Council to decide. The President received the offer with thanks.

SURPLUS GEAR

A Service to All VK6 Members

As you have undoubtedly noticed, there has been a "Surplus Gear and Exchange Officer" appointed, 6EV being the chosen one.

It was felt that there must be quite a considerable amount of surplus gear held by all Hams that would be of assistance to others.

Under the new scheme, anyone wishing to dispose of or purchase gear should write to 6EV, c/o. P.O. Box N1002, G.P.O. Perth, stating what you have or want and approximate value. A small amount of 6d. up to 10/-, 1/- up to £1, and 5% over will be charged to the Purchaser to cover costs involved, such as postage, phone calls, etc. Any surplus cash goes to W.I.A. funds. Nominally there will be no charge of freight, etc., to country members except when goods are extra heavy.

PERSONALITIES

Congratulations Frank (6FL) on making W.A.C. on fone at last. Yes, Frank made contact with HK3DD in Bogota, Columbian Republic, on Sunday, 23rd February. Frank is the fourth VK6 to W.A.C. on fone post-war. —...— 6DD is another lucky VK6. John worked HK3DD on 22nd February, and this makes him W.A.C. fone on both 28 and 14 Mc., being the third VK6 to make this feat. —...— 6RU worked YV5ADX in Caracas, Venezuela on 21st February on 14 Mc., so Jim is the second VK6 to make W.A.C. fone on both 28 and 14 Mc. —...— 6KW followed up his previous 28 and 14 Mc. South Americans by working OA1AX in Lima, Peru, on 23rd February, giving him W.A.C. on both bands in 1947 as well as 1946.

6DJ is regularly on cw. Made a surprising contact on short skip with 6MO at Watheroo on the 11th January. —...— 6DF is regularly on 28 Mc. We believe he has his new 18 tube super working now and will be back on air again soon. —...— 6KE is getting ready for phone. Was seen purchasing large quantities of modulation equipment the other day. —...— 6XI heard regularly on 28 Mc. but not by Perthites. Finds W contacts very easy up in Northam. —...— 6EL doing well with low power up in Geraldton. Quite a few DX stations were heard calling him lately.

6HL a tiger for 14 Mc. antenna construction. Reckons he will soon be heard outside Perth if he perseveres long enough. —...— 6EV is another aspirant to phone. Heard testing on 28 Mc. recently. —...— 6BC enjoying a well earned holiday at Rockingham fishing for "Fish" instead of bits and pieces for the new Xmitter. Bert is threatening to bash the heaviside layer with QRM any day now. —...— 6NL heard nightly with quite a nice signal. Val has had receiver trouble; the type we all have had sometime in the shape of that old bugbear "image interference."

6WH has been busy building a new modulator and is now back with the usual 6WH style working on 14 Mc. —...— 6MU has been down in Perth for a few weeks' vacation. Mal says he had to give the Merredin air a rest for a while. —...— 6AH, Stan is keeping Wiluna on the map by making a regular hole in the ether these days. —...— 6RO still a busy man making his new ham receiver. Bert just revels in winding coils and building coil units and then finding them "punk." Then he starts all over again. Bert's theme song is "Why can't we do this more often." —...— 6JS has just been over among the wise men of the East. Heard over 3KU whilst in Melbourne.

TASMANIA

Secretary: J. Brown, VK7BJ
12 Thirza Street, New Town. 'Phone W 1328.
Meeting. Place:. Photographic Society's Rooms, 163 Liverpool Street, Hobart.
Meeting Night: First Wednesday of each month.

The Council met at residence of R. F. Gee, corner of Montagu Street and Doyle Ave., New Town, on Friday, 28/2/47, at 8 p.m. and later. There will have to be a fine for late arrivals! Present were 7LJ in chair, 7BJ, 7CW, 7RF, 7PA and 7CT. Apology from 7CJ, who at this stage was still in the North.

Correspondence inward and outward to and from F.H.Q. and communications via official Traffic Net were read and received, some discussion ensued on a number of these items.

A discussion on Traffic Network and frequency resulted in a resolution, moved by 7CT and seconded by 7CW, that an official Xtal be purchased as suggested, being carried.

New Members.—Three applications were received and passed on for confirmation at the next General Meeting.

Accounts.—Petty Cash and general expenses accounts were passed, one being the necessary in conjunction with our delegates' trip to Conference.

7LJ gave an outline of the trip to Launceston and spoke with eloquence on the pleasant week-end spent with our Northern Members. It seems a lot of ifs and buts were ironed out and much good done for the W.I.A. here, this trip will be fully reported under separate heading.

One important decision was that an intra-State ragchew be held on 2nd and 4th Fridays each month on 3.5 and 7 Mc. as conditions warrant,

zero hour 8 p.m. A phone broadcast of the Division's general activities to be part of each evening's programme —7CT to have charge of this item.

The third of our series of Field Days is to take place on 16/3/47, same conditions, times, etc., as before to apply.

The General Meeting was conducted to a good attendance on 5/3/47. Present being 7LJ in chair, 7BJ, 7CT, 7CW, 7ML, 7RF, 7RY, 7XA, 7GR, 7CJ, 7AL, 7LL, 7YY, 7MY, Messrs. O. Brown, Koglin, R. Harrix, R. Allenby, E. Cruise. Visitor was "Snowy" Harrison (VK3CN). Apologies from 7OM, 7PA, Messrs. Fulton and D. H. Watson.

Correspondence inward.—Contest dope from B.E.R.U. and letters from VK6 and F.H.Q. were received.

New Members.—E. D. Cooper (7MC), S. W. Carter and E. J. Cruise (one full and two associate members) were elected on motion by 7MY, seconded by 7AL, and were duly welcomed to the W.I.A. by 7LJ.

VK5 notes in "A.R." raised a worthy subject in the matter of "Food For Britain" Parcels and it was decided on a motion from 7CW seconded by 7AL, that this Division take some appropriate action.

A "Food Co-ordinator" in the person of 7XA, who volunteered to act, assisted by 7RF, are to handle the organisation of this work. Our present hopes are to forward parcels to R.S.G.B. for distribution by them as they are in a better position to make the best possible use of them.

A hat around registered the surprising amount of £6 as an initial move and it is hoped to continue this effort from time to time.

7LJ repeated the information on the trip to Launceston given at Council meeting for the information of members present.

Pleasure was expressed at the opportunity of renewing old friendships when 7LJ welcomed our visitor 3CN (ex-7CH) to the meeting. "Snowy," in replying, gave a brief outline of some of the VK3 activities, etc.

7CW has been elected as official U.H.F. Officer for VK7 and hopes to build up an active group on these bands. All interested are asked to contact Crosby.

Launceston and the North—maybe we could have some regular notes seeing as how the gang up there must be active—what say chaps?

During a holiday here last month, Ramsay Bryce (4AB of Ipswich) found time to contact many of the V.I.H. gang. From conversations it would seem that he was needing more than 24 hours to the day most of the time. Glad to have seen you OM.

STATE WIDE MEETING IN LAUNCESTON

An almost hundred per cent. but scattered membership had an opportunity of getting together on 22nd February when amateurs from all over Tasmania paid a week-end visit to the northern city, a reasonably central point in a State where, in spite of its size, one still has to travel some 120 miles in order to do such things.

Arrangements were taken in hand by Col. Wright (7LZ) and other Launceston members whose main regret was, due to rather short notice, their "lack of organisation," a deficiency we visitors did not manage to locate.

The largest single migration was from Hobart, consisting of 7LJ, 7BJ, 7DH, 7CT, 7OM, 7CJ, 7TR, 7GR, 7YY, Messrs. Lipscombe and Durkin —the last two being recent obtainers of the A.O.C.P.—in three cars driven by 7LJ, 7CT and 7YY.

The journey is worthy of note, to the writer's way of thinking, in that exactly two beers were consumed over the whole distance which, in view of the coaching days' legacy of picturesque stopping-places every ten miles or so, deserves mention in anyone's record of irregular phenomena. This was possibly due less to temperate habits than to the effect of ramming eleven people into two small cars after 7YY broke an axle forty miles out.

After stopping for lunch at Tunbridge, we came down into the Tamar Valley around 4 p.m. and reported at

7LZ. With experience gained on the way up we squeezed into Col's neat little shack where he again apologised for the lack of organisation and proceeded to unfold a story of organising which would have done justice to the Royal Show. Dispersing for a brush-up and tea, we repaired later to Wills & Co. in the Quadrant, where our numbers were added to by 7AB, 7MC, 7DS, 7BQ, Mr. McLean (7LA technician), 7RK, 7RF, 7PW, 7GD, Mr. Crawford, and a visitor from farther afield, 3CC.

Many had not met since before the war, so that things were unofficially in full swing when the meeting was declared open at eight p.m. Mr. Wright welcomed the visitors, on whose behalf Mr. Jensen responded, mentioning that the personal contact well repaid any effort on their part, as would also the greater sharing of Institute matters. Handicapped as we were by conditions which made north-south contacts a comparative rarity, it was important that the pre-war practice of an occasional state gahering be resumed, to which end it was hoped that northern and country members would be well represented at the Annual Dinner.

Mr. Brown gave a resume of Institute activities with particular reference to the need for outlying members' views in formulating proposals for submission to the Federal Convention. Details were also given of efforts that are being made by the W.I.A. generally to have ambiguities and needless restrictions deleted from the P.M.G. regulations.

Proving an able spokesman for the north, Mr. Wright introduced many items of discussion, chief of which were the resumption of all-Australian contests, local distribution of QSL cards together with some suggestions for their handling, and the arranging of a regular round-table of VK7 stations to take the greatest advantage of suitable conditions for intra-state working.

It was decided that for the time being each second and fourth Friday evening in the month should be set aside for a VK7 ragchew on the 7 Mc. band, using phone or cw as each individual station desired, with a recommendation that official transmissions from VK7WI be introduced when it becomes practicable.

A suggestion was made by Mr. Spence that the Tourist Bureau and other organisations might be approached with a view to having QSL cards of some distinctive Tasmanian design provided free.

Around these points and variations too numerous for anyone but a shorthand expert to cope with, all contributed to a general discussion which, one feels, did much to strengthen the ties of a widely dispersed Division. It was flagging but little when the meeting was brought to a close at eleven p.m. with a vote of thanks to our Launceston hosts and to Mr. Crawford on behalf of Wills & Co. for making the room available.

The following morning was spent in a visit to 7BQ's shack and a general tour around which took in the beauties of Cataract Gorge, after which courses were set for home.

50 AND ABOVE

WESTERN AUSTRALIA

This band has been very active in VK6 during the last month or two, 6LW, 6HM, 6GB, 6SA and 6BK being heard regularly. 6FL, 6HL, 6DD and 6FC all hope to be on very shortly.

Anyone wanting information regarding skeds, gear, etc., for this band are asked to communicate with 6HM who is the 50 Mc. activities manager for VK6.

FEDERAL QSL BUREAU

guess it will be many years yet before you can hit VK.

The Federal QSL Manager is still desirous of the QRA of any station that can pass cards to VK9, particularly to VK9AZ. Can the VK4 Manager help out? The matter is urgent.

The following QSL Bureau statistics may be of interest. Cards handled at Federal Bureau:—

1931— 9,790	1937—43,296
1932—18,333	1938—41,155
1933—18,686	1939—20,962
1934—22,043	1940— 310
1935—27,110	1946—23,222
1936—43,707	(Inward only)

The annual call book number of the N.Z.A.R.T. journal "Break In" is an attractive and useful publication. It contains a host of useful information for the amateur, together with a list of N.Z. call signs.

From 12th March, the Victorian QSL Bureau will be taken over by VK3ZB, Graham Roper, 26 Lucas St., Caulfield, S.E.8, Victoria. Graham will handle the domestic metropolitan and country distribution in VK3 and all cards for VK3 stations should be sent direct to VK3ZB. Outward cards from VK3 stations should be sent to VK3OF, Frank O'Dwyer, 190 Thomas Street, Hampton, as at present. Writer will continue as Federal QSL Manager and handle bulk distribution to States of all cards incoming to VK, together with vetting of cards for W.A.C. and other awards.

FEDERAL NOTES

matter is naturally of interest to Australian amateurs, and as the safety of the expedition depends on radio communication, the Department has requested the co-operation of the W.I.A. The Divisions have been requested by the Federal Executive to organise watches, and in addition we would suggest that every member who is able should keep an ear open for LI2B.

Incidentally we have already been asked whether this constitutes a new country! We don't profess to know the answer to that, but generally speaking, a country is by nature a fixed object. However, we will be very pleased to give honorable mention in these notes to the first Australian amateur to contact LI2B. Beyond saying that this is one of the most interesting things that has happened in amateur circles for some time, we need hardly stress its importance to the amateur movement.

FOR SALE, EXCHANGE, WANTED

9d. per line, minimum 2/-

FOR SALE.—Owner going abroad, must sell these and other parts. (a) **All Band Rx** 1500 Kc. to 60 Mc., 4 stages of plug in coils, quite good on 50 Mc., 6AC7 r.f., 6AC7 mix., 6C6 osc., 6K7 regen. i.f., 6B8 2nd det., 6H6 n.s., 6C6 b.f.o., 6J5 and 6V6 audio, ganged bandspread, £20. (b) **50 Mc. Rx**, 6AK5 r.f., 954 mix., 955 osc., 2 stages 1600 Kc. i.f. 6K7s, 6B8 2nd det., 6J5 b.f.o., 6V6 output, VR105 regulator, all ganged, £15. (c) **Modulator** 6C6, 6C6 triode, 6A6, 10-12 watts, £5. VK3NW, 53 Wellington Street, Kew, E.4, Victoria.

TRANSMITTER FOR SALE.—All metal rack and panel construction, smart appearance. Three stage Xtal, 807 P.A., bandswitching exciter. Operates on all bands 28 to 3.5 Mc. Has built in antenna tuning unit with panel switching and antenna change over relay. Complete with all coils and crystal. Price £15. Further particulars from D. Kirby, 234 Lords Place, Orange, N.S.W.

RADIO MAST FOR SALE. Oregon Mast, approx. 70 feet, two pieces, stepped half way, shaped and tapered. Complete with stays, aerial wire, erection gear, and base plate. Price £15 as stands. Inspection at following address: H. Williams, 21 Lord St., Caulfield, S.E.9. Further information Phone MY260, Ext. 687.

EXCHANGE.—Require 100TH, 35T or 35TG. Will exchange unused 813, unused pair 15E, unused pair 15R or quantity 1852. Adrian Miller, VK3AH, 2 Logan Street, Canterbury, E.7. Phone: WF 2138.

FOR SALE.—Two 4 mfd. Condensers 2000 VDC, new. G. Sabin, 39 Queen Street, Mosman, N.S.W.

FOR SALE.—Gammatron HK24 price 45/-, two RCA 866 20/- each, plate transformer 2000-0-2000 V. at 200 Ma. price £6, or lot for £9/10/-; all are new. Apply B. Falkenberg, BYADUK, Victoria.